



State of Ohio Environmental Protection Agency

P.O. Box 1049, 1800 WaterMark Dr.
Columbus, Ohio 43266-0149

Richard F. Celeste
Governor

CLOSURE PLAN DISAPPROVAL

Issuance Date August 7, 1989
Effective Date September 21, 1989

CERTIFIED MAIL

August 7, 1989

Re: Closure Plan
L-Tec Welding & Cutting Systems
OHD 000 821 454

Mr. A.R. Fritz
L-Tec Welding & Cutting Systems
P.O. Box 710
Middle Road
Ashtabula, OH 44004

EPA Region 5 Records Ctr.



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Dear Mr. Fritz:

On May 5, 1989, L-Tec Welding and Cutting Systems submitted to Ohio EPA an amended closure plan for three (3) hazardous waste surface impoundments and a hazardous waste pile located on Middle Road in Ashtabula, Ohio. The amended closure plan was submitted pursuant to Rule 3745-66-12 of the Ohio Administrative Code (OAC) in order to demonstrate that L-Tec Welding and Cutting Systems's proposal for closure complies with the requirements of OAC Rules 3745-66-11 and 3745-66-12.

The public was given the opportunity to submit written comments regarding the amended closure plan of L-Tec Welding and Cutting Systems in accordance with OAC Rule 3745-66-12. The public comment period extended from May 15, 1989, to June 20, 1989. No comments were received by Ohio EPA in this matter.

Based upon review of the company's submittal and subsequent revisions, I conclude that the amended closure plan for the hazardous waste facility at L-Tec Welding and Cutting Systems does not meet the performance standard contained in OAC Rule 3745-66-11 and does not comply with the pertinent parts of OAC Rule 3745-66-12.

The closure plan submitted to Ohio EPA by L-Tec Welding and Cutting Systems is hereby disapproved (see Attachment A).

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By: Mary Cavan Date 9-21-89

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You are notified that this action of the Director is issued as a proposed action pursuant to ORC Section 3745.07. This action will become final on the effective date indicated unless you or an objector files an appeal requesting an adjudication hearing within thirty (30) days of the date of issuance of this action. The adjudication hearing will be conducted in accordance with OAC Chapter 3745-47. The request for a hearing shall specify the issues of fact and law to be contested. Requests for hearings shall be sent to: Ohio Environmental Protection Agency, Hearing Clerk, 1800 WaterMark Drive, P.O. Box 1049, Columbus, OH 43266-0149.

A modified closure plan addressing the deficiencies enumerated in Attachment A must be submitted to the Director of the Ohio EPA for approval within thirty (30) days of the receipt of this letter in accordance with OAC 3745-66-12. The modified closure plan should be submitted to: Ohio Environmental Protection Agency, Division of Solid and Hazardous Waste Management, Attn: Thomas Crepeau, Manager, Data Management Section, P.O. Box 1049, Columbus, Ohio 43266-0149. A copy should also be sent to: Kay Springer, Ohio EPA, Northeast District Office, 2110 East Aurora Road, Twinsburg, Ohio 44087.

Sincerely,



Richard L. Shank, Ph.D.
Director

RLS/PV/ps

cc: DSHWM Central File, Ohio EPA
Lisa Plerard, USEPA, Region V
Kay Springer, NEDO, Ohio EPA
Joe Biaglow, NEDO, Ohio EPA
Paul Vandermeer, DSHWM, Ohio EPA
Ghassan Khaled, DSHWM, Ohio EPA
Michael Eggert, DGW, Ohio EPA
Joel Morbito, USEPA, Region V

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By: Mary Carter Date 9-21-89

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ATTACHEMENT A
L-TEC WELDING AND CUTTING SYSTEMS
OHD 000 821 454

1. L-TEC shall revise the closure plan schedule of events to eliminate use of calendar dates and include generic time periods for closure activities (i.e. closure will resume 30 days after approval of plan by Ohio EPA, etc.).
2. L-TEC shall provide clarification regarding the various soil samples taken on-site. It is difficult to differentiate "background" soil samples from those used to define the extent of the contamination. Background samples appear to be contaminated with hazardous wastes and/or hazardous constituents. Background samples shall be taken from areas that are not impacted by any waste management activities. Ohio EPA reserves the right to evaluate all background sampling data and to eliminate questionable (i.e. contaminated) data from consideration in determining true background.
3. L-TEC shall define both the lateral and vertical extent of soil contamination caused by hazardous waste management at the site. The company shall not limit its sampling to just the "landfill closure area" but shall define the total extent of contamination around all of the hazardous waste management units.
4. L-TEC shall stabilize the F006 sludges from the "pre-RCRA" hazardous waste pile prior to disposal in the landfill cell.
5. The risk assessment proposed by L-TEC fails to account for several exposure pathways and ignores several assumptions regarding future human exposure to hazardous constituents because the company maintains that access to the "clean" closed portions of the area will be restricted. These items shall be appropriately addressed in the revised closure plan. Areas slated for "clean" closure (i.e. ditches, North Pond, Killins Pond) must be assumed to have unlimited usage following completion of closure. Therefore, all exposure pathways shall be accounted for in the risk assessment using worst case scenarios. The worst case scenarios shall include exposure to soils, surface waters, groundwater, and airborne particles through inhalation, ingestion, and dermal exposure routes.
6. L-TEC indicates that dermal absorption of heavy metals was not considered as an exposure pathway since the company could not find specific exposure toxicity values. However, the facts indicate that dermal absorption of mercury can be a significant pathway for human exposure. L-TEC shall consult the various references provided in Attachment B of this letter, particularly the "Superfund Exposure

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Assessment Manual" (EPA/540/1-88/001) to determine appropriate modeling assumptions for exposure to contaminants of concern at the site. Dosages of contaminants estimated by the models shall be assumed to be additive (i.e. dermal + ingestion + inhalation = total exposure). In all cases where guidance is used to aid in the risk analysis, the information in the March 19, 1987 Federal Register (Vol. 52, No. 53, pp. 8704-8709) shall be followed. For instance the "Superfund Exposure Assessment Manual" allows for attenuation of contaminants in the environment whereas the Federal Register (3/19/87) does not allow for attenuation. The Federal Register (3/19/87) assumptions shall be used in all cases where there are conflicting decisions.

7. The carcinogenic potency factor (CPF) listed in the closure plan for arsenic (1.75 mg/kg/day) does not seem consistent with values presented in other references. L-TEC shall use the most updated/current literature to establish the appropriate values for the CPF values used in the risk assessment.
8. L-TEC states that cancer risks ranging from 1×10^{-4} to 1×10^{-7} are acceptable in evaluating proposed clean-up target concentrations for carcinogenic chemicals. Ohio EPA considers an increased cancer risk of 1×10^{-6} as the maximum acceptable residual contamination allowable for "clean" closure for carcinogenic compounds (i.e. protective of human health and the environment as required by OAC 3745-66-11).
9. The exclusion of groundwater as an exposure pathway based on a low probability of future use is unacceptable. The closure performance standard (OAC 3745-66-11) implicitly requires that any evaluation of clean closure shall assume that groundwater underneath a site will be used as a drinking water supply (see 52 FR 8704, March 19, 1987). In this case, preliminary groundwater monitoring data indicate contamination with heavy metal constituents at or above the maximum contaminant level (MCL) found in OAC 3745-81-11. These MCLs are the threshold values used to evaluate the applicability of the clean closure option for the hazardous waste management units in a risk based closure scenario.
10. L-TEC shall determine the specific contaminant concentrations in the groundwater downgradient of the units and determine the statistical significance of the contamination. If contamination is found to be at concentrations above the MCL, clean closure (using a risk assessment or total removal) is impossible and landfill closure will be required for all hazardous waste management units. If downgradient contamination is found to be present but below MCLs then the contamination shall be evaluated in the risk assessment. Detailed review of groundwater data at the L-TEC site will make it possible to decide on the appropriate closure procedure.
11. It may be necessary to further expand the landfill closure to the North Pond and Killins Pond if groundwater is found to be contaminated above the risk assessment concentrations (i.e. MCLs) for heavy metals. L-TEC shall proceed with the closure of the Lime and West Ponds and the waste pile while awaiting results from groundwater studies to determine final closure methods for the other units.

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12. The facility shall specify the location of the clay borrow source and demonstrate that there is enough clay to cover the landfill. The facility shall submit the sampling and analysis of soil and demonstrate its adequacy as a cover material. Field sampling procedures and a map of the exact location of the sample areas shall be provided. The following data shall be submitted for each sample: Unified Soil Classification, particle size distribution, Atterberg Limits, natural water content, compaction, permeability, unit weight per cubic foot, friction angle and cohesion.
13. The compacted clay layer above the waste shall be laid down in a series of lifts no more than six (6) inches in depth. Each lift shall be compacted to nominal dry density and a new lift added until the compacted clay layer is at least two (2) feet thick. The compacted clay layer shall have a maximum permeability of 1×10^{-7} cm/sec. and shall be free of clods, rock, fractured stone, debris, cobbles, rubbish and roots that would increase the hydraulic conductivity or serve to promote preferential leachate flow paths.
14. The facility shall demonstrate that the clay layer has achieved the 1×10^{-7} cm/sec. permeability. The proof shall consist of, but not be limited to, a permeability test (how was it accomplished and how often?), compaction procedures used (including equipment (s) used for compaction), and measurement of the moisture content of the soil.
15. The facility shall construct a test fill on site to be used to verify the adequacy of the materials, design, equipment and construction procedures proposed for the final cover.
16. The facility shall specify the "approved equal" of the flexible membrane liner (FML). The FML material and seam specifications shall also be submitted to the Ohio EPA for review and approval.
17. The FML shall be protected below by at least a 12 inches of bedding material no coarser than Unified Soil Classification System (USCS) sand (SP) and which is free of rock, fractured stones, debris, cobbles, rubbish, roots and sudden changes in slope that may impair the FML; by a geotextile fabric; or by ensuring that the clay surface is free of any areas (i.e., protusions, sharp objects, etc.) which may impair or puncture the FML.
18. The facility shall specify the "approved equal" of the drainage net. The specifications of the drainage net shall also be submitted to the Ohio EPA for review and approval.
19. The facility shall use a drainage net that has a minimum hydraulic conductivity of 1×10^{-2} cm/sec and shall have a final slope of at least 3% after settlement and subsidence.

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By: Mary Carver Date 9-21-89 (3)

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20. The facility shall specify the "equal" of the "Engineering Fabric" and submit its specifications to the Ohio EPA for review and approval.
21. The facility shall demonstrate that the drainage pipe to be used is adequate for the removal of accumulated liquids in the drainage layer, and submit its specification to the Ohio EPA for review and approval.
22. The facility shall evaluate the effect of settling and subsidence on the integrity of the final cover.
23. The facility shall demonstrate that the FML, drainage pipe, filter fabric and drainage net are compatible with the waste in the landfill.
24. Within 60 days of completion of final closure, the owner or operator shall submit to the Director, by registered mail, a certification that the landfill has been closed in accordance with the specifications in the approved amended closure plan. The certification must be signed by the owner or operator and by an Independent Registered Professional Engineer. Documentation supporting the Independent Registered Professional Engineer's certification shall be furnished to the Director upon request until he releases the owner or operator from the Financial Assurance Requirements for closure.
25. The facility shall perform the following testing on:
 - a. clay borrow source:
 - Grain size for every 1,000 cu. yd. minimum
 - Moisture content for every 1,000 cu. yd. minimum
 - Atterberg Limits for every 5,000 cu. yd. minimum
 - Permeability for every 10,000 cu. yd. minimum
 - b. Clay layer during construction:
 - Density for every 250 cu. yd. minimum
 - Moisture content for every 250 cu. yd. minimum
 - Atterberg Limits for every 5,000 cu. yd. minimum
 - Permeability for every 10,000 cu. yd. minimum
 - Dry density for every 1,500 cu. yd. minimum
 - Grain size for every 1,500 cu. yd. minimum
 - Moisture-density curve for every 5,000 cu. yd. minimum
 - and all changes in material.

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26. Whenever field moisture content is out of specifications, an area at least one half the distance in all directions to the nearest passed test shall be scarified, the moisture content shall be adjusted and the area re-compacted and re-tested. Areas failing density tests shall have a similar area re-compacted and re-tested until the area is within specifications.
27. The facility shall submit to Ohio EPA a Construction Quality Control/Quality Assurance plan and include it as part of the closure plan.
28. The facility shall specify the vegetation component to be planted on the final cover. The plant density shall be sufficient to minimize the cover soil erosion to no more than 2 tons/acre/year, calculated using the USDA Universal Soil Loss Equation. The roots of the vegetation component shall not disrupt the low permeability layer.

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